

## **REMARKS**

Applicant expresses appreciation to the Examiner for consideration of the subject patent application. This amendment is in response to the Office Action mailed August 17, 2005. Claims 1-18 were originally presented. Claim 11 was objected to. Claims 1-10, 15, 17, and 18 were rejected. The claims and drawings have been amended to address the concerns raised by the Examiner.

Claims 1-18 remain in the application. Claims 4, 6, 7, 10, 12 have been amended. The indication of allowable claims 13, 14 and 15 is acknowledged with appreciation.

### **Drawing Objections**

The drawings were objected to under 37 C.F.R. § 1.83(a) for not showing every feature of the invention specified in the claims. Claims 14, 15, 17, 18 have been canceled as a result.

### **Claim Rejections - 35 U.S.C. § 112**

Claims 4, 6-8, 12, 15, 17, and 18 stand rejected under 35 U.S.C. 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 4, 12, and 15 have been amended to “sliding locking plate” instead of mechanism. Claim 6 has been amended to correct the lack of antecedent basis.

### **Claim Rejections - 35 U.S.C. § 102**

Claims 1-3, 5, 9, and 10 (including independent claims 1 and 10) were rejected under 35 U.S.C. § 102(b) as being anticipated by Brown, et al.

In order to more succinctly explain why the claims presented herein are allowable, Applicant will direct the following remarks primarily to the originally presented independent claims 1 and 10 with the understanding that once an independent claim is allowable, all claims depending therefrom are allowable.

Claim 1 of the present invention includes the limitation of:

“a sliding lock plate having **an opening**, being slidably engaged with the base plate”

The sliding locking plate is a thin two dimensional sheet that has length in two dimensions but is

thin in width. The length of the material can engage the slots of the semi-circular rotator to provide more locking area and sheer strength. In technical terms, the plate maximizes the amount of shear area provided perpendicular to the wrist axis while minimizing the axial distance of the material used. This allows the prosthetic wrist to be as short as possible while still remaining extremely strong. For example, the present invention might be configured to allow a 300 pound man to do a one-handed wall push-up.

In contrast, Brown discloses “a tooth 37 that cooperates with tooth spaces of the gear sector.” (Column 2, lines 37-38) The tooth used by Brown does not have any significant strength or shear area in the axis perpendicular to the arm, because the tooth is configured to match the width of the tooth spaces in the gear sector. In addition, the tooth and its supporting structures are strips of metal and do not form a plate that can be used in a slot.

Another limitation of claim 1 is the inclusion of “**a semi-cylindrical rotator** with slots, [...] coupled to the base plate in a manner that allows the **sliding lock plate to lock into the slots.**” The Office Action has cited Brown as teaching a semi-cylindrical rotator. In particular, the Office Action has cited the sector gear 17 as being the semi-cylindrical rotator. However, FIG. 1 of Brown illustrates that the sector gear is a thin disk or washer type of rotating element. Brown does not teach or suggest the use of a semi-cylinder that can rotate, instead Brown teaches a thin disk that rotates.

The structures taught by Brown are not optimized for minimal axial distance as in the present invention. In the present invention, the plate is enveloped around the semi-cylinder to reduce the overall axial distance that will be consumed in the wrist. Using a thin disk, as in Brown, and a long strip-type locking element adds axial distance to the Brown mechanism by expanding the area needed for the locking mechanism up the prosthetic arm.

Furthermore, the Brown patent uses a disk that is intended to be fitted outside of an already existing elbow joint. Brown’s disk does provide a locking feature but Brown does not provide significant rotational locking strength in the locking direction because the tooth and disk do not provide significant shear area. In addition, if the sector gear of Brown were incorporated into the present invention, then the mechanical hand that might be fastened to the sector gear and would rotate with the elbow axis which would make it difficult or impossible to use by a human

prosthetic user.

Another limitation of claim 1 is that an opening exists in the sliding locking plate, semi-cylindrical rotator, and the base plate. This allows control wires for the prosthetic hand to be run through the claimed structure and to be able to withstand millions of flexions due to the centrally oriented location.

Claim 11 has also been amended to enable the semi-cylinder to include the limitation of “configured to have a rotation axis perpendicular to an arm axis”. This limitation means that a wrist will be able to rotate in an axis that is perpendicular to the arms central axis. Brown is not able to meet this limitation because Brown would move a prosthetic hand that was attached to it in a transverse or perpendicular direction.

Rejection of the dependent claims 2-9 should be reconsidered and withdrawn for at least the reasons given above with respect to the independent claim(s). The dependent claims, being narrower in scope, are allowable for at least the reasons for which the independent claim(s) is/are allowable.

Therefore, Applicant respectfully submits that claims 1-13, and 16 are allowable, and urges the Examiner to withdraw the rejection.

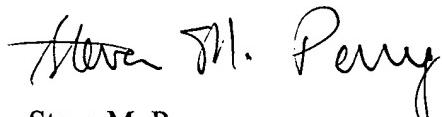
## CONCLUSION

In light of the above, Applicant respectfully submits that pending claims 1-13 and 16 are now in condition for allowance. Therefore, Applicant requests that the rejections and objections be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after entry of this Amendment, the Examiner is strongly encouraged to call Steve M. Perry at (801) 566-6633 so that such matters may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 20-0100.

DATED this 19th day of December, 2005.

Respectfully submitted,



Steve M. Perry  
Registration No. 45,357

THORPE NORTH & WESTERN, LLP  
Customer No. 20,551  
P.O. Box 1219  
Sandy, Utah 84091-1219  
Telephone: (801) 566-6633